NAVILED®PRO

Hella marine

Vision and Innovation

Approvals

Hella marine 2NM NaviLED®PRO Port, Starboard and Stern navigation lamps are type approved according to EN 14744, 2005 and EN 60945, 2002, and they are certified by the German Federal Maritime and Hydrographic Agency (BSH) for German inland waterways and the open sea for vessels less than 50m in length.
They carry the following approval numbers: ⚓ D.06.419 and
EC Type examination (Module B) Certificate: BSH/4612/6010947/08
0735/yy: EC Quality System (Module D) Certificate: BSH/4613/072/0670/08
for the "Wheelmark" approval according to the Marine Equipment Directive 96/98/EC (MED).
The relevant declaration of conformity is available for download on www.hellamarine.com .

NaviLED®PRO Self Diagnostic Control

To ensure long term safety at sea, each BSH certified NaviLED®PRO navigation lamp is equipped with a self diagnostic control.

A photometrical self-test is carried out by the lamp in periodic intervals. If the light output, and consequently the visibility, reaches a pre-determined value, the lamp activates 'Service Mode'.

Service Mode is indicated by the lamp flashing at a rate of 60 flashes per minute for 15 seconds as soon as the lamp is switched on. This will occur for 15 seconds every time the lamp is switched on until the unit has operated for 2000 hours.

After 2000 hours the Service Mode flash rate doubles to 120 flashes per minute for 15 seconds as soon as the lamp is switched on.
To ensure the lamp meets the light output criteria of its certification, Hella marine recommends the light module be replaced as soon as it enters this 2000 hour Service Mode stage.

The 2000 Service Mode flash rate should not occur earlier than tens of thousands of hours. By regular recreational boating standards, even with regular night sailing, this stage will hardly ever be reached.

Warranty Statement

Congratulations! The product you have selected comes from Hella marine - one of the world's leading manufacturers of marine lighting products.

Hella marine branded products are covered by a warranty against manufacturing or material defects. (For further details please check the terms of trade with your Hella marine agent).

The lamp module is sealed and does not have any serviceable parts inside; opening the module will invalidate warranty.

In the unlikely event that you should experience a problem with your purchase, please contact your Hella marine agent where you purchased the product.

For general comments about Hella's products please contact us on E-mail at techfeedback@hellamarine.com

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BSH Certified NaviLED®PRO 2 Nautical Mile Port / Starboard / Stern Navigation Lamps

Introduction
Hella Marine LED Navigation Lamps offer many advantages over conventional bulb lamps. Significantly reduced power consumption, ultra long life and high tolerance to shock and vibration make the LED lamps the ideal choice for the harsh marine environment.

Hella Marine NaviLED®PRO Navigation Lamps are 'Precision Optical Instruments', tested and type approved to comply with international maritime regulations.

Installation of Lamps

Navigation Lamps must be mounted as follows:

Port and Starboard Lamps:
Parallel to the vessel's centre line. (see Fig.1)
Vertical to the vessel's centre line. (see Fig.2)

Stern Lamps:
Right angles to the vessel's centre line.
Vertical to the vessel's centre line. (see Fig.2)

The signal direction arrow should point:
Right ahead for Port / Starboard Lamps (side Lamps)
Right astern for Stern Lamps.

Without obstruction to the light output:
When the Lamp is operating, the light should not be obstructed or concealed by superstructures or other objects.

Port / Starboard (side lamps):
Must be mounted in the same thwartships position at the same height above the construction water line (CWL), and a minimum of 1m below the Masthead Lamp and mark the effective beam of the vessel. If this is not possible, the distance between the individually mounted side Lamps should not be less than 85% of the maximum beam of the vessel.

NaviLED PRO® Bi-colour Option:
Two NaviLED PRO® side Lamps may be mounted 'back to back' to form a Bi-colour Lamp (see Fig.3) and used instead of single colour side Lamps.
These must be mounted on the vessels centre line, and a minimum of 1m below the Masthead Lamp.

N.b. The relevant country specific rules have to be taken into consideration.

Fig. 1 Parallel to the vessel's centre line.

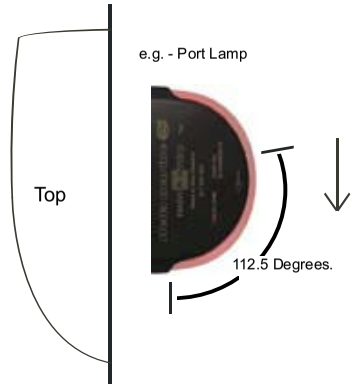


Fig.2 Vertical to the vessel's centre line.

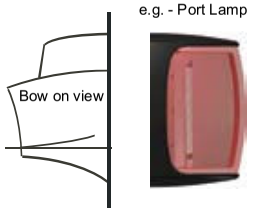
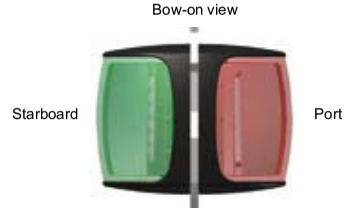


Fig.3 Bi-colour Mounting.



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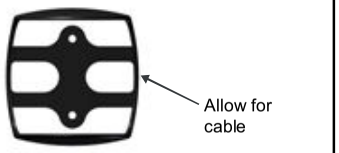
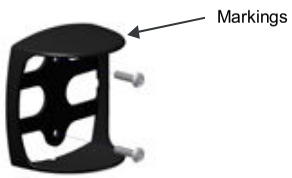
ASSEMBLY AND REMOVAL INSTRUCTIONS

NaviLED®PRO Port / Starboard / Stern Navigation Lamps

Assembly



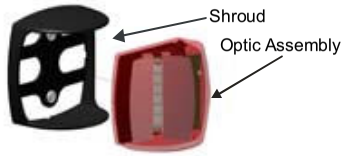
Step 1
Make Provision for the power cable



Step 2 - Mount the Shroud

2.1 Shroud must be installed with markings on the TOP horizontal surface.

2.2 Arrow on Shroud must point;
Right ahead for Port and Starboard lamps
Right astern for Stern lamps



Step 3 - Insert the Optic Assembly
Note - Arrow on top of Shroud and Arrow on top of Optic Assembly must point right ahead for Port and Starboard lamps and right astern for Stern lamps.

3.1 Feed power cable

3.2 Push optic assembly into Shroud

3.3 Connect power

Removal

Step 1
Carefully insert screw driver between Light Module and Shroud

Step 2
Pull Light Module out

The NaviLED®PRO BSH certified range

With UV resistant PMMA Lens

Description	NM	Black Shroud	White Shroud
Port	2 NM	2LT 959 900-501	2LT 959 900-511
Starboard	2 NM	2LT 959 908-501	2LT 959 908-511
Stern	2 NM	2LT 959 909-501	2LT 959 909-511
Masthead	3 NM	2LT 959 940-501	2LT 959 940-511

With Ultra High Impact Resistant Polyamide Lens

Description	NM	Black Shroud	White Shroud
Port	2 NM	2LT 959 900-601	2LT 959 900-611
Starboard	2 NM	2LT 959 908-601	2LT 959 908-611
Stern	2 NM	2LT 959 909-601	2LT 959 909-611
Masthead	3 NM	2LT 959 940-601	2LT 959 940-611

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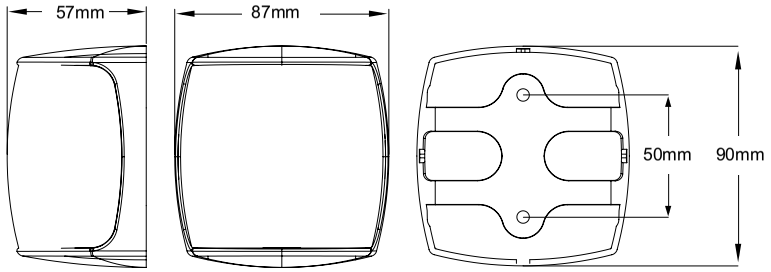
Housing Description	UV resistant PMMA or Polyamide lens, High impact shroud
Light source	Multiple LEDs
Installation	Pre-wired with 2.5m of marine cable
Operating Voltage	Multivolt™ 9-33V DC
Voltage Protection	Spike protected to +500 Volt
	Reverse Polarity protected to -700 Volt
Power Consumption	Port <0.7W, Starboard <1.2W, Stern <1.3W
Degree of protection	IP 67, Completely sealed

Electromagnetic Compatibility (EMC)
This LED lamp is an electronic device. The electrical circuits contain components that suppress possible interference, both emission as well as susceptibility, to the limits prescribed in EN 60945.

Protection against damage due to voltage spikes
This lamp is protected against reverse polarity connection up to -700 Volt and against spikes of up to +500 Volt .

Dimensions



Wiring Colour Coding

LED modules are polarity conscious. Reverse polarity will not damage this product but will inhibit its function. Hella recommends wire connections be soldered and heat shrink tubing applied to seal the joint.

Colour	connect to	Power consumption
Black	Negative (-ve)	
Red	Signal (+ve)	Less than 2W

Wiring
- Supply Voltage 9-33V (DC only)

NB: Lamp must be protected by a fuse not exceeding 5 amperes.